

Specifications — SMX System MultiMatrix Switchers

Video — composite video (SMX 84/88/1616 V)

Routing	
SMX 84 V	8 x 4 matrix
SMX 88 V	8 x 8 matrix
SMX 1616 V	16 x 16 matrix
Gain	Unity
Bandwidth	150 MHz (-3 dB), fully loaded
Differential phase error	1.0° at 3.58 MHz and 4.43 MHz
Differential gain error	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk	-60 dB @ 5 MHz
Switching speed	100 ms (max.)

Video input — composite video (SMX 84/88/1616 V)

Number/signal type	8 or 16 composite video
Connectors	8 or 16 female BNC
Nominal level	1 V _{p-p} for composite video
Minimum/maximum levels	Analog: 0.1 V to 2.0 V _{p-p} with no offset
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset (max. allowable)	1.5 V

Video output — composite video (SMX 84/88/1616 V)

Number/signal type	4, 8, or 16 composite video
Connectors	4, 8, or 16 BNC female
Nominal level	1 V _{p-p} for composite video
Minimum/maximum levels	0.1 V to 2.0 V _{p-p} (follows input)
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset

Sync — composite video (SMX 84/88/1616 V)

Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
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Video — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Routing	
SMX 84 SV/YC	8 x 4 matrix
SMX 88 SV/YC	8 x 8 matrix
SMX 1616 SV/YC	16 x 16 matrix
Gain	Unity
Bandwidth	150 MHz (-3 dB), fully loaded
Differential phase error	1.0° at 3.58 MHz and 4.43 MHz
Differential gain error	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk	-60 dB @ 5 MHz
Switching speed	100 ms (max.)

Video input — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Number/signal type	8 or 16 S-video
Connectors	
SMX 84/88/1616 SV	8 or 16 female 4-pin mini DIN
SMX 84/88/1616 YC	8 or 16 x 2 female BNC
Nominal level	1 V _{p-p} for Y S-video 0.3 V _{p-p} for C of S-video
Minimum/maximum levels	Analog: 0.1 V to 2.0 V _{p-p} with no offset

Specifications — SMX System MultiMatrix Switchers, cont'd

Impedance.....	75 ohms
Return loss.....	<-40 dB @ 5 MHz
DC offset (max. allowable).....	1.0 V

Video output — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Number/signal type.....	4, 8, or 16 S-video
Connectors	
SMX 84/88/1616 SV.....	4, 8, or 16 female 4-pin mini DIN
SMX 84/88/1616 YC.....	4, 8, or 16 x 2 female BNC
Nominal level	1 Vp-p for Y S-video 0.3 Vp-p for C of S-video
Minimum/maximum levels.....	0.1 V to 2.0 Vp-p (follows input)
Impedance.....	75 ohms
Return loss.....	<-40 dB @ 5 MHz
DC offset.....	±5 mV with input at 0 offset

Sync — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Standards.....	NTSC 3.58, NTSC 4.43, PAL, SECAM
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Video — wideband (SMX 84/88/1616 WB)

Routing	
SMX 84 WB.....	8 x 4 matrix
SMX 88 WB.....	8 x 8 matrix
SMX 1616 WB.....	16 x 16 matrix
Gain.....	Unity
Bandwidth.....	400 MHz (-3 dB), fully loaded
Crosstalk.....	-91 dB @ 1 MHz, -72 dB @ 5 MHz, -68 dB @ 10 MHz, -61 dB @ 30 MHz, -53 dB @ 100 MHz
Switching speed	200 ms (max.)

Video — wideband (SMX 84/88/1616 WB)

Number/signal type.....	8 or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsB
Connectors	8 or 16 female BNC
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance.....	75 ohms
Horizontal frequency.....	15 kHz to 150 kHz
Vertical frequency.....	30 Hz to 150 Hz
Return loss.....	<-30 dB @ 5 MHz
DC offset (max. allowable).....	1.0 V

Video — wideband (SMX 84/88/1616 WB)

Number/signal type.....	4, 8, or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsB
Connectors	4, 8, or 16 female BNC
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	0.3 V to 1.5 Vp-p (follows input)
Impedance.....	75 ohms
Return loss.....	<-30 dB @ 5 MHz
DC offset.....	±5 mV with input at 0 offset
Switching type.....	Triple-Action

Sync — SMX 88 SYNC, SMX 88 H+V, SMX 1616 SYNC

Input type	
SMX 88 SYNC, SMX 1616 SYNC	Composite sync (S)
SMX 88 H+V	Separate H and V sync
Output type (follows input)	
SMX 88 SYNC, SMX 1616 SYNC	Composite sync (S)
SMX 88 H+V	Separate H and V sync
Input level	0.5 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.0 V to 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Horizontal frequency.....	15 kHz to 150 kHz
Vertical frequency.....	30 Hz to 150 Hz
Max. propagation delay	35 ns
Max. rise/fall time	4 ns
Polarity.....	Positive or negative (follows input)

Video — VGA (SMX 84/88/1616 VGA)

Routing	
SMX 84 VGA	8 x 4 matrix
SMX 88 VGA	8 x 8 matrix
SMX 1616 VGA	16 x 16 matrix
Gain	Unity
Bandwidth.....	350 MHz (-3 dB), fully loaded
Crosstalk.....	-91 dB @ 1 MHz, -72 dB @ 5 MHz, -68 dB @ 10 MHz, -61 dB @ 30 MHz, -53 dB @ 100 MHz
Switching speed	200 ms (max.)

Video input — VGA (SMX 84/88/1616 VGA)

Number/signal type.....	8 or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsB
Connectors	8 or 16 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance.....	75 ohms
Horizontal frequency.....	15 kHz to 150 kHz
Vertical frequency.....	30 Hz to 150 Hz
Return loss.....	<-36 dB @ 5 MHz
DC offset (max. allowable).....	1.0 V

Video output — VGA (SMX 84/88/1616 VGA)

Number/signal type.....	4, 8, or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsB
Connectors	4, 8, or 16 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	0.3 V to 1.5 Vp-p (follows input)
Impedance.....	75 ohms
Return loss.....	<-36 dB @ 5 MHz
DC offset.....	±6 mV with input at 0 offset
Switching type.....	Triple-Action

Specifications — SMX System MultiMatrix Switchers, cont'd

Sync — VGA (SMX 84/88/1616 VGA)

Input type.....	RGBHV, RGBS, RGsB, RsGsBs
Output type.....	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Input level	0.5 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.0 V to 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Horizontal frequency.....	15 kHz to 150 kHz
Vertical frequency.....	30 Hz to 150 Hz
Max. propagation delay	40 ns
Max. rise/fall time	18 ns
Polarity.....	Positive or negative (follows input)

Digital video — SMX 44/84/88/1616 SDI

Routing	
SMX 44 HD SDI.....	4 x 4 matrix
SMX 84 HD SDI.....	8 x 4 matrix
SMX 88 HD SDI.....	8 x 8 matrix
SMX 1616 HD SDI.....	16 x 16 matrix
Gain	Unity
Maximum data rate.....	2.97 Gbps
Data types.....	8 or 10 bit
Operation standards	SMPTE 292M, SMPTE 259M, SMPTE 424M, ITU-RBT.601, ITU-RBT.1120

Digital video input — SMX 44/84/88/1616 SDI

Number/signal type.....	4, 8, or 16 single link SDI, HD-SDI; or dual link HD-SDI
Connectors	4, 8, or 16 BNC female
Nominal level	0.80 Vp-p \pm 10%
Impedance.....	75 ohms
Return loss.....	<-15 dB @ 1 MHz to 1.5 GHz
Equalization	Automatic
Input cable equalization distance	
HD-SDI	
Extron SHR, Belden 1694A cable	492' (150 m)
Extron HR, Belden 1505A cable	328' (100 m)
SDI	
Extron SHR, Belden 1694A cable	984' (300 m)
Extron HR, Belden 1505A cable	656' (200 m)

NOTE The transmission distance varies depending on the signal resolution and on the type of cable, graphic card, and display used in the system.

Digital video output — SMX 44/84/88/1616 SDI

Number/signal type.....	4, 8, or 16 single link SDI, HD-SDI; or dual link HD-SDI
Connectors	4, 8, or 16 BNC female
Nominal level	0.80 Vp-p \pm 10%
Impedance.....	75 ohms
Return loss.....	<-15 dB @ 1 MHz to 1.5 GHz
DC offset.....	\pm 0.5 V with input at 0 offset
Re-clocking.....	Automatic, or use available bypass mode for nonstandard rates
Jitter	<0.2 VI

Rise/fall time (20-80%)

SDI..... 700 ps ±100 ps

HD-SDI..... 250 ps ±100 ps

Video — SMX 44/48/84/88 DVI

NOTE *Appropriate DVI-D-to-HDMI cables or adapters are required for HDMI signal input/output.

Routing

SMX 44 DVI..... 4 x 4 matrix

SMX 48 DVI..... 4 x 8 matrix

SMX 84 DVI..... 8 x 4 matrix

SMX 88 DVI..... 8 x 8 matrix

Gain..... Unity

Maximum data rate..... 4.95 Gbps (1.65 Gbps per color)

Maximum pixel clock 165 MHz

Resolution range Up to 1920x1200 @ 48, 50, or 60 Hz; or 1080p @ 60 Hz

Signal type..... Single link DVI digital video signals are supported.

Digital video RGB digital video (DVI standards), actively buffered (supports all single link DVI standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE These SMX DVI Series boards are not compatible with HDMI 1.3.

Digital audio Not supported

Consumer Electronics Control (CEC)

Not supported

EDID and DDC..... Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.

HDCP Not supported

HPD..... Supports hot plug detection (HPD) of display as a pass-through signal.

Standards..... DVI 1.0, HDMI 1.2

Switching speed 200 ns, max.

Video input — SMX 44/48/84/88 DVI

Number/signal type..... 4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)

Connectors 4 or 8 female DVI-I

Equalization Automatic

Input cable length >50' (15.24 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p

Video output — SMX 44/48/84/88 DVI

Number/signal type..... 4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)

Connectors 4 or 8 female DVI-I

Re-clocking..... Automatic

Peripheral device power 250 mA per output

Video — SMX 44/48/84/88 DVI PRO

NOTE *Appropriate DVI-D to HDMI cables or adapters are required for HDMI signal input/output.

Routing

SMX 44 DVI PRO 4 x 4 matrix

SMX 48 DVI PRO 4 x 8 matrix

SMX 84 DVI PRO 8 x 4 matrix

SMX 88 DVI PRO 8 x 8 matrix

Gain..... Unity

Specifications — SMX System MultiMatrix Switchers, cont'd

Maximum data rate.....	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock	165 MHz
Resolution range	Up to 1080p (HDTV) or 1920x1200 (the highest resolution of the single link DVI standard) @ 60 Hz
Signal type.....	Single link DVI digital video signals are supported.
Digital video	RGB digital video (DVI and HDMI standards) or Y, Cr, Cb digital component video (HDMI), actively buffered (supports all single link DVI and HDMI (if using an optional adapter) standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE *These SMX DVI PRO Series boards are not compatible with HDMI 1.3.*

Digital audio	Supports HDMI audio (if using an HDMI to DVI adapter) transmitted through the RGB and Y, Cr, Cb lines, actively buffered.
Consumer Electronics Control (CEC)	Supports CEC wired infrared data pass-through using the HDMI 1.2 standard.
EDID and DDC.....	Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
HDCP	Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI 1.2 standards
HPD.....	Supports hot plug detection (HPD) of display as a pass-through signal.
Maximum data rate.....	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock	165 MHz
Standards.....	DVI 1.0, HDMI 1.2
Switching speed	200 ns, max.

Video input — SMX 44/48/84/88 DVI PRO

Number/signal type.....	4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I (digital only)
Equalization	Automatic
Input cable length	>50' (15.24 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p

Video output — SMX 44/48/84/88 DVI PRO

Number/signal type.....	4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I (digital only)
Re-clocking.....	Automatic
Peripheral device power	250 mA per output

Video — SMX 44/48/84/88 HDMI

NOTE **Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.*

Routing	
SMX 44 HDMI	4 x 4 matrix
SMX 48 HDMI	4 x 8 matrix
SMX 84 HDMI	8 x 4 matrix
SMX 88 HDMI	8 x 8 matrix
Gain.....	Unity
Maximum data rate.....	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock	165 MHz
Resolution range	Up to 1920x1200 or 1080p @ 60 Hz
Signal type.....	Single link HDMI (or DVI-D*)

Digital video	RGB digital video (DVI and HDMI standards) or Y, Cr, Cb digital component video (HDMI), actively buffered (supports all single link DVI (if using an optional adapter) and HDMI standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)
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NOTE *These SMX HDMI Series boards are not compatible with HDMI 1.3.*

Digital audio	Supports HDMI audio transmitted through the RGB and Y, Cr, Cb lines, actively buffered.
Consumer Electronics Control (CEC)	Supports CEC wired infrared data pass-through using the HDMI 1.2 standard.
EDID and DDC.....	Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
HDCP	Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI 1.2 standards
HPD.....	Supports hot plug detection (HPD) of display as a pass-through signal.
Maximum data rate.....	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock	165 MHz
Standards.....	DVI 1.0, HDMI 1.2
Switching speed	200 ns, max.

Video input — SMX 44/48/84/88 HDMI

Number/signal type.....	4 or 8 (depending on model) digital RGB single link HDMI (or DVI-D*)
Connectors	4 or 8 female HDMI type A
Equalization	Automatic
Input cable length	>50' (15.24 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p

Video output — SMX 44/48/84/88 HDMI

Number/signal type.....	4 or 8 (depending on model) digital RGB single link HDMI (or DVI-D*)
Connectors	4 or 8 female HDMI type A
Re-clocking.....	Automatic
Peripheral device power	250 mA per output

Optical specifications — SMX 88/1616 Fiber Optic I/O board

NOTE *The fiber optic I/O cards are class 1 laser products. They meet the safety regulations of IEC-60825, FDA 21 CFR 1040.10, and FDA 21 CFR 1040.11.*

Number/type	8 or 16 single mode, or 8 or 16 multimode fiber optic inputs and outputs per I/O card
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NOTE *Only one fiber is required to transmit video, audio, and unidirectional data. A second fiber is required to transmit return data for bidirectional control/communication.*

Connectors	8 or 16 LC connectors per I/O card
Operating distance.....	30 km (18.75 miles) with singlemode (SM) cables with a FOX 500 DA6 SM or FOX 500 TX/RX SM 0.15 km (492') with multimode (MM) cables with a FOX 500 DA6 MM or FOX 500 TX/RX MM

NOTE *Operating distance is approximate. These are typical distances. The maximum distance may be greater than these typical numbers depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion,*

Nominal peak wavelength.....	850 nm for multimode (MM), 1310 nm for single mode (SM)
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Specifications — SMX System MultiMatrix Switchers, cont'd

Transmission power	
Singlemode.....	-5 dBm, typical
Multimode.....	-5 dBm, typical
Optical loss budget	
Singlemode.....	13 dB, maximum
Multimode.....	7 dB, maximum
Maximum channel data rate.....	4.25 Gbps

Video — SMX 88/1616 Fiber Optic I/O board

Routing	8 x 8 or 16 x 16 unidirectional (TX) matrix <i>or</i> 4 x 4 or 8 x 8 bidirectional (TX/RX) matrix
Gain	Unity
Pixel data bit depth.....	8 bits per channel, 3 channels (R, G, B)
Maximum resolution	1600x1200 @ 60 Hz, digitized pixel for pixel; higher resolutions up to 2048x1120, undersampled

Video/audio input — SMX 88/1616 Fiber Optic I/O board

Number/signal type.....	8 or 16 fiber optic signals
Connectors	8 or 16 LC connectors per I/O card

NOTE *Input comes from an Extron FOX 500 TX transmitter, FOX 500 DA6, or FOX 500 DVI transmitter.*

Video/audio output — SMX 88/1616 Fiber Optic I/O board

Number/signal type.....	8 or 16 fiber optic signals
Connectors	8 or 16 LC connectors per I/O card

NOTE *Output connects to an Extron FOX 500 RX receiver or FOX 500 DVI receiver.*

Audio — SMX 84/88/1616A (analog)

Routing	
SMX 84 A	8 x 4 stereo matrix
SMX 88 A	8 x 8 stereo matrix
SMX 1616 A	16 x 16 stereo matrix
Gain	Unbalanced output: -6 dB; balanced output 0 dB
Frequency response	20 Hz to 20 kHz, ± 0.05 dB
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N	>102 dB at maximum output (21 dBu, unweighted) (balanced)
Crosstalk	<-95 dB @ 1 kHz, fully loaded
Stereo channel separation	>98 dB @ 1 kHz
CMRR	>70 dB @ 20 Hz to 20 kHz

Audio input — SMX 84/88/1616 A (analog)

Number/signal type.....	8 or 16 stereo, balanced/unbalanced
Connectors	(8 or 16) 3.5 mm captive screw connector, 5 pole
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	0 dBu (0.775 Vrms)
Maximum level.....	+19.5 dBu, (balanced or unbalanced) at 1% THD+N
Input gain adjustment	-18 dB to +24 dB, adjustable per input; default = 0 dB

NOTE *0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV \approx 2 dBu*

Audio output — SMX 84/88/1616 A (analog)

Number/signal type.....	8 or 16 stereo, balanced/unbalanced
Connectors	(8 or 16) 3.5 mm captive screw connector, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu, balanced or unbalanced at 0.1% THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 0.1% THD+N
Volume control range	-85 dB to 0 dB (volume numbers 0 through 64) in a 35 dB increment from step 0 to step 1, then in 1 dB increments from steps 1 to 64; default = 64 (0 dB)

NOTE *Attenuation = volume number minus 64. The default is 0 dB = volume number 64.*

Control/remote — switcher host ports

Serial host control port	1 bidirectional RS-232 or RS-422, rear panel 9-pin female D connector 1 bidirectional RS-232 front panel 2.5 mm mini stereo jack
Baud rate and protocol	9600 (default), 19200, 38400, 115200 baud (rear port only), adjustable; 8 data bits, 1 stop bit, no parity
Serial control pin configurations	
9-pin female D connector	
RS-232	2 = TX, 3 = RX, 5 = GND
RS-422	2 = TX-, 3 = RX-, 5 = GND, 7 = RX+, 8 = Tx+
Mini stereo jack	
RS-232	Tip = TX, ring = RX, sleeve = GND
Ethernet control port	1 RJ-45 female
Ethernet data rate (for network communication)	10/100Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP
Ethernet default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Default gateway = 0.0.0.0 DHCP = off
Web server	Up to 200 simultaneous sessions 7.0 MB nonvolatile user memory
Program control	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™) Microsoft® Internet Explorer ver. 6 or higher, Telnet

General

Power	100 VAC to 240 VAC, 50/60 Hz, 180 watts, internal
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Fan, left to right (as viewed from front panel)
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	(Depth excludes connectors. Width excludes rack ears.)
SMX 300 BME	5.25" H x 17.0" W x 12" D (3U high, full rack wide) (13.3 cm H x 43.2 cm W x 30.5 cm D)
SMX 400 BME	7.0" H x 17.0" W x 12" D (4U high, full rack wide) (17.8 cm H x 43.2 cm W x 30.5 cm D)
SMX 500 BME	8.75" H x 17.0" W x 12" D (5U high, full rack wide) (22.2 cm H x 43.2 cm W x 30.5 cm D)

Specifications — SMX System MultiMatrix Switchers, cont'd

Product weight with cards installed	
SMX 300 BME	18.1 lbs (8.2 kg)
SMX 400 BME	20.3 lbs (9.2 kg)
SMX 500 BME	23.9 lbs (10.8 kg)
Shipping weight with cards installed	
SMX 300 BME	22 lbs (10 kg)
SMX 400 BME	26 lbs (12 kg)
SMX 500 BME	30 lbs (14 kg)
DIM weight with cards installed, all models	
	25 lbs (12 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, CUL, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
MTBF	30,000 hours
Warranty	3 years parts and labor

- NOTE** All nominal levels are at $\pm 10\%$.
- NOTE** Specifications are subject to change without notice.

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